Empirical Studies of Governance and Development:
An Annotated Bibliography[i]

Authors	Methodology	Main Findings
Ades, Alberto and Rafael di Tella. 1996. "The Causes and Consequences of Corruption: A Review of Recent Empirical Contributions. " *IDS Bulletin* 27(2).	Review of empirical contributions of causes and effects of corruption.	Corruption negatively effects investment, and corruption is associated with the lack of competition in the product market and with less independent judicial systems.
Ades, Alberto and Rafael di Tella. 1997. "National Champions and Corruption: Some Unpleasant Interventionist Arithmetic." *Economic Journal*, 107, 1023-1042.	Cross-country regressions using 32 countries, with subjective indicators of corruption and industrial policy from the World Competitiveness Yearbook.	Active industrial policy is associated with higher corruption, which offsets part of the effects of an active industrial policy in increasing investment rates.
Alesina, Alberto and Beatrice Weder. 1999. "Do Corrupt Governments Receive Less Foreign Aid?" NBER Working Paper No. 7108.	Cross-country regressions for up to 90 countries, exploring the relationships between aid, foreign direct investment, and corruption.	Foreign direct investment over the 1970-95 period is reduced by host-country corruption levels, using one corruption indicator, but no relationship is found when using any of 6 other corruption indicators.
Alesina, Alberto; Sule Ozler, Nouriel Roubini and Phillip Swagel. 1996. "Political Instability and Economic Growth." *Journal of Economic Growth*, 1(2): 189-211.	Cross-country regressions for 113 countries for the 1950-82 period using annual data.	In countries and time periods with more changes in government (peaceful or otherwise), growth is lower. Slow growth in turn increases the likelihood of coups, but not of peaceful changes in government.
Barro, Robert. 1991. "Economic Growth in a Cross Section of Countries." *Quarterly Journal of Economics*, 106, 407-433.	Cross-country growth and investment regressions for 98 countries for the 1960-85 period.	Coups, revolutions, and political assassinations are associated with slower growth and lower investment rates.
Barro, Robert. 1996. "Democracy and Growth." *Journal of Economic Growth*, 1(1): 1-27.	Cross-country growth regressions, examining the impact of democracy (as measured by the Freedom House indexes) on growth.	Democracy is positively related to growth through factor accumulation: democracy is not significant when education and investment are included in the regression. A curvilinear relationship best fits the data, with partly-democratic countries exhibiting the fastest growth rates.
Brunetti, Aymo, Gregory Kisunko, and Weder. 1997. "Institutional Obstacles to Doing Business: Region-by-Region Results from a Worldwide Survey of the Private Sector. " *Policy Research Working Paper No. 1759*. World Bank, Washington, DC.	Conduct a survey of business establishments around the world to construct an index of the "credibility of rules", composed of "the predictability of rule-making, subjective perceptions of political instability, security of persons and property, predictability of judicial enforcement, and corruption. " Cross-firm and cross-country regressions as used to test the relationship between the credibility index and economic growth.	Credibility promotes investment and economic growth.
Burkhart, Ross and Michael Lewis-Beck. 1994. "Comparative Democracy: The Economic Development Thesis." *American Political Science Review*, 88: 903-910.	Time-series cross-sectional regressions analyzing the relationship between income levels and democracy, as measured by the Freedom house indexes.	The positive relationship between per capita income levels and democracy is mostly attributable to the effects of income on democratization; democracy has little effect on income levels.
Burnside, Craig and David Dollar. 1997. "Aid, Policies, and Growth.	Panel regressions measuring the relationships between aid, policies,	Aid has a positive impact on growth in developing countries with good fiscal,

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" *Policy Research Working Paper No. 1777*. World Bank, Washington, DC.	and growth for 56 countries over six four-year time periods.	monetary, and trade policies. Aid does not appear to affect policies systematically either positively or negatively.
Burnside, Craig and David Dollar. 1998. "Aid, the Incentive Regime, and Poverty Reduction. " *Policy Research Working Paper No. 1937*. World Bank, Washington, DC.	Panel regressions explaining the impact of aid on growth in developing countries.	Aid spurs growth and poverty reduction only in a good policy environment. In developing countries with weak economic management, there is no relationship between aid and change in infant mortality. Where economic management is stronger, there is a relationship between aid and the change in infant mortality.
Chong, Alberto and Cesar Calderón. 2000. "Empirical Tests on the Causality and Feedback Between Institutional Measures and Economic Growth." *Economics and Politics* (forthcoming).	Geweke decomposition is used to test the causality and feedback between institutional measures from BERI and ICRG (such as contract enforceability, nationalization potential, infrastructure quality, bureaucratic delays, and a composite index of the above four) and economic growth.	Improving institutional development promotes economic growth in developing countries. Causality also operates in the other direction, with growth leading to higher ratings on the ICRG and BERI indexes.
Chong, Alberto and Cesar Calderón. 1997. "Institutional Change and Poverty, or Why is it Worth it to Reform the State?" Mimeograph. World Bank, Washington, DC.	Cross-country regressions using measures of risk of expropriation, risk of contract repudiation, law and order, corruption in government and quality of bureaucracy for institutional development, and measures proposed by Foster-Greer-Thorbecke (1984) for poverty.	Improvements in institutional efficiency reduce the degree, severity, and incidence of poverty.
Chong, Alberto and Cesar Calderón. 1998. "Institutional Efficiency and Income Inequality: Cross Country Empirical Evidence. " Mimeograph. World Bank, Washington, DC.	Cross-country regressions using a composite index of institutional efficiency based on measures of corruption of government, quality of bureaucracy, law and order tradition, risk of expropriation and risk of contract repudiation.	For poor countries, institutional efficiency is positively linked with income inequality, and for rich countries it is negatively linked with income inequality.
Clague, Christopher; Philip Keefer, Stephen Knack and Mancur Olson. 1996. "Property and Contract Rights in Autocracies and Democracies." *Journal of Economic Growth*, 1(2): 243-276.	Cross-country regressions using time-series cross-section data, testing the impact of autocrats' time horizons, and the duration of democracy, on several measures of property and contract rights. .	Property and contract rights are significantly associated with a proxy for the time horizons of autocrats (the log of years in power), and, in democracies, with the duration of democratic government.
Clague, Christopher; Philip Keefer, Stephen Knack and Mancur Olson. 1999. "Contract-Intensive Money." *Journal of Economic Growth*, 4(2): 185-212.	Cross-country regressions testing an objective indicator of contract enforceability: "contract-intensive money" is the share of M2 not held in the form of currency outside banks.	"Contract-intensive money" is significantly related to growth, to investment, and to the size of contract-dependent sectors such as insurance.
Cukierman, Alex, Steven Webb, and Bilin Neyapti. 1994. "Measuring Central Bank Independence and Its Effect on Policy Outcomes. " *International Center for Economic*	Cross-country regressions used to develop four different rankings of central bank independence: legal, governors' turnover rates,	Legal independence is a statistically significant determinant of price stability among industrial countries, but not developing countries. The rate of

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Growth Occasional Paper No. 58:1-62.	responses of specialists to questionnaire on central bank independence, and an aggregation of the first two.	governors' turnover contributes significantly to explaining inflation in developing countries and in explaining variations in inflation across the overall sample of countries. An inflation-based index of overall central bank independence, combining legal and turnover information, helps explain cross-country variations in the inflation rate.
Cull, Robert. 1998. "How Deposit Insurance Affects Financial Depth. " *Policy Research Working Paper No. 1875.* World Bank, Washington, DC.	Cross-country regressions in levels and differences.	Explicit deposit insurance is positively correlated with subsequent increases in financial depth if adopted when government credibility and institutional development are high.
Demirguc-Kunt, Asli and Enrica Detragiache. 1998. "Financial Liberalization and Financial Fragility. " Development Research Group. World Bank, Washington, DC.	Panel logit regressions using rule of law, corruption, and contract enforcement as measures for institutional development as determinants of the probability of financial crisis after interest-rate liberalizations.	Banking crises are more likely to occur after financial liberalization. However, the effect of financial liberalization on the fragility of the banking sector is weaker when the institutions are more developed.
Dollar, David and Lant Pritchett. *Assessing Aid: What Works, What Doesn't, and Why. 1998.* Oxford University Press for the World Bank, Washington, DC.	Qualitative and quantitative analysis explaining the interaction of government policies and the quality of governance.	The impact of aid on growth and infant mortality depends on "sound economic management," as measured by an index of economic policies and institutional quality.
Evans, Peter B. and James E. Rauch (2000). "Bureaucratic and Growth: A Cross-National Analysis of the Effects of "Weberian" State Structures on Economic Growth." *American Sociological Review*, forthcoming.	Cross-country growth regressions, testing the impact of bureaucratic structure and meritocracy, as measured by a "Weberian State Scale" constructed from expert opinions for 35 developing nations.	Growth is strongly associated with higher values of the Weberian State Scale.
Fischer, Stanley. 1993. "The Role of Macroeconomic Factors in Growth. " *Journal of Monetary Economics.* 32:485-512.	Regression analog of growth accounting used to present cross-sectional and panel regressions showing relationship between growth and macroeconomic factors.	Growth is negatively associated with inflation, large budget deficits, and distorted foreign exchange markets. Hence good polices are conducive to faster growth.
Friedman, Eric, Simon Johnson, Daniel Kaufmann, and Pablo Zoido-Lobatón. 1999. "Dodging the Grabbing Hand: The Determinants of Unofficial Activity in 69 Countries. " Forthcoming in *Journal of Public Economics.*	Across 69 countries, higher tax rates are associated with less unofficial activity as a percent of GDP, but corruption is associated with more unofficial activity. Entrepreneurs go underground not to avoid official taxes but to reduce the burden of bureaucracy and corruption. Dodging the "grabbing hand" in this way reduces tax revenues as a percent of both official and total GDP.	Corrupt governments become small governments and only relatively uncorrupt governments can sustain high taxes.
Grier, Kevin and Gordon Tullock (1989). "An Empirical Analysis of	Growth regressions for regional	Nations with less civil liberties grow more

Authors	**Methodology**	**Main Findings**
Cross-National Economic Growth: 1951-80," *Journal of Monetary Economics*, 24: 259-276.	groups of countries, using the Freedom House civil liberties index as "a proxy for the political infrastructure" of nations. .	slowly in the African and Latin American samples; no relationship is found for the Asian sample.
Hall, Robert and Charles Jones. 1999. "Why Do Some Countries Produce So Much More Output Per Worker Than Others?" *Quarterly Journal of Economics*, 114: 83-116.	Cross-country regressions using two indexes: one of government anti-diversion policies (GADP) constructed by Knack and Keefer (1995) with data from the ICRG, and one from Sachs and Warner (1995) on trade openness.	Differences in capital accumulation, productivity, and therefore output per worker are driven by differences in institutions and government policies.
Helliwell, John. 1994. "Empirical Linkages Between Democracy and Economic Growth." *British Journal of Political Science*, 24: 225-248.	Cross-country regressions exploring the relationships between income levels, democracy and income growth.	Higher income levels encourage democratization. Any effects of democracy on income growth appear to be through increasing education and investment rates.
Huther, Jeff and Anwar Shah. 1998. "Applying a Simple Measure of Good Governance to the Debate on Fiscal Decentralization. " *World Bank Operations Evaluation Department Policy Research Working Paper No. 1894*. World Bank, Washington, DC.	Construction of an index of governance quality. Index includes: citizen participation, government orientation, social development, economic management.	A positive relationship exists between fiscal decentralization and quality of governance.
Isham, Jonathan, Daniel Kaufmann and Lant Pritchett. 1997. "Civil Liberties, Democracy, and the Performance of Government Projects. " *The World Bank Economic Review*. 11(2): 219-42.	Cross-national dataset used on the performance of government investment projects financed by the World Bank to examine the link between government efficacy and governance.	Controlling for other determinants of performance, economic rates of return on projects in countries with the strongest civil liberties average 8 to 22 percentage points higher than countries with the weakest civil liberties.
Johnson, Simon, Daniel Kaufmann and Pablo Zoido-Lobatón. 1998. "Regulatory Discretion and the Unofficial Economy. " *American Economic Review*. 88(2): 387-392.	Cross-country regressions from Heritage Foundation, Global Competitiveness Survey, ICRG, Freedom House to explain the size of the unofficial economy in three regions: Latin America, OECD, and the former Soviet bloc.	Countries with more regulation tend to have higher share of the unofficial economy in total GDP. Higher tax burden leads to more unofficial activity. Countries with more corruption tend to have a larger unofficial economy.

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Johnson, Simon, Daniel Kaufmann, John McMillan and Christopher Woodruff. 1999. Forthcoming *Journal of Public Economics.*	Firm-level regressions using "unofficial" activity of private manufacturing firms in Eastern European countries: Russia, the Ukraine, Poland, Slovakia, and Romania.	A comparison of cross-country averages shows that managers in Russia and the Ukraine face higher effective tax rates, worse official corruption, greater incidence of Mafia protection, and have less faith in court system. The firm level regressions for three Eastern European countries find that official corruption is significantly associated with hiding output.
Kauffman, Daniel and Aart Kraay and Pablo Zoido-Lobatón. (1999a). "Governance Matters. " World Bank Policy Working Paper No. 2196.	Simultaneous model used to isolate the direct effects of differences in governance on three measures of development outcomes: GDP per capita, infant mortality, and adult literacy. They use a very large set of indicators drawn from commercial sources and investor surveys. They allocate these indicators to six clusters and use latent variable model to estimate a common element in each cluster.	A strong causal relation exists between governance and development outcomes for all six aggregate indicators. They find that their results hold whether or not OECD countries are included in their sample.
Kaufmann, Daniel and Aart Kraay and Pablo Zoido-Lobatón. (1999b). "Aggregating Governance Indicators." World Bank Policy Working Paper No. 2195.	Simple variant of an unobserved components model used on a sample of 160 countries to combine information from different sources into aggregate governance indicators. These include rule of law, graft, and voice and accountability.	Aggregate governance indicators are more informative about the level of governance than any individual indicator, but the standard errors associated with estimates of governance are still large relative to the units in which governance is measured.
Kaufmann, Daniel and Shang-Jin Wei. "Does 'Grease Money' Speed Up the Wheels of Commerce?" 1999. *NBER Working Paper No 7093.*	In a general equilibrium model in which regulatory burden and delay can be endogenously chosen by rent-seeking bureaucrats, red tape and bribery may be positively correlated across firms. Using data from three worldwide firm-level surveys, the relationship is examined between bribe payment, management time wasted with bureaucrats, and cost of capital.	Firms that pay more bribes are also likely to spend more, not less, management time with bureaucrats negotiating regulations, and face higher, not lower, cost of capital.
Knack, Stephen and Gary Anderson. 1999. "Is 'Good Governance' Progressive?" Unpublished manuscript.	Cross-country regressions examining changes in income growth for different income quintiles, and changes in Gini coefficients over time.	Income growth for the poorer quintiles is more sensitive to the quality of governance (measured by ICRG and BERI indexes) than is income growth for richer quintiles. Gini coefficients decline more where the (initial) quality of governance is higher.

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Knack, Stephen and Philip Keefer. 1995. "Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures." *Economics and Politics.* 7(3): 207-227.	Cross-country regressions using two subjective indexes of institutional development from ICRG and BERI. The ICRG index combines quality of the bureaucracy, corruption in government, rule of law, expropriation risk, and repudiation of contracts by government. The BERI index combines bureaucratic delays, nationalization potential, contract enforceability, and infrastructure quality.	Institutions that protect property rights are crucial for economic growth and rates of investment as a share of GDP. The institutional indexes explain economic performance much better than do the Freedom House indexes, or frequencies of coups, revolutions, and assassinations.
Knack, Stephen. 1996. "Institutions and the Convergence Hypothesis: The Cross-National Evidence." *Public Choice*, 87: 207-228.	Cross-country growth regressions testing for convergence effects.	Unconditional convergence in per capita incomes is not found in broad cross-country samples. It is found however for a sample of nations with high-quality institutions as measured by indexes from ICRG and BERI.
Knack, Stephen and Philip Keefer. 1997a. "Why Don't Poor Countries Catch Up? A Cross-National Test of an Institutional Explanation." *Economic Inquiry*. 35:590-602.	Institutional indexes from BERI and ICRG are interacted with initial per capita income in cross-country growth regressions. .	Institutions are important determinants of "convergence" – weak institutions prevent poor countries from exploiting "catch up" opportunities.
Knack, Stephen and Philip Keefer. 1997b. "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation." *Quarterly Journal of Economics.* 112:1251-1288.	Cross-country regressions using indicators from the World Values Surveys on interpersonal trust, civic cooperation, and memberships in groups.	Trust and civic cooperation have significant impacts on economic performance. Group memberships, hypothesized to have positive effects by Putnam (1993) and negative effects by Olson (1982), have no relation to economic performance.
Kormendi, Roger C. and Philip G. Meguire. 1985. "Macroeconomic Determinants of Growth." *Journal of Monetary Economics,* 16: 141-163.	Cross-country growth regressions with 47 countries for the 1950-77 period. Independent variables include the Freedom House civil liberties index, a proxy for "economic rights, such as freedom from expropriation or the enforceability of property rights and private contracts."	Growth and investment rates are higher, other things equal, in countries with greater civil liberties. The effect on growth appears to be entirely through increasing investment.
La Porta, et. al. 1997a. "Legal Determinants of External Finance." *Journal of Finance.* 52(3):1131-1150.	Cross-country regressions using measures of legal rules protecting investors and the quality of their enforcement (measures include rule of law, shareholder rights, one-share = one-vote, creditor rights). The data on these qualitative, but objective (except for rule of law) variables are presented in La Porta et. al. (1998 [1996]).	Countries with better investor protections have bigger and broader equity and debt markets.
La Porta, et. al. 1997b. "Trust in Large Organizations." *AEA Papers and Proceedings.* 87(2):333-338.	Cross-country regressions using measures of trust from the World Values Surveys.	Trust has important effects on economic performance.
Levine, Ross. 1997. "Law, Finance, and Economic Growth."	Panel regressions using institutional variables (such as	Countries with more developed institutions (legal and regulatory systems) have better-

Authors	Methodology	Main Findings
Mimeograph. World Bank, Washington, DC.	creditor rights, enforcement of contracts, and accounting standards) as instrumental variables.	developed financial intermediaries, and consequently grow faster.
Loayza, Norman. 1996. "The Economics of the Informal Sector: A Simple Model and Some Empirical Evidence from Latin America. " *Carnegie-Rochester Conference Series on Public Policy*. 45:129-162.	Endogenous growth model with data on Latin American countries in the early 1990s. Causal variables include corporate income tax rate, labor market restrictions, strength of the enforcement system.	The size of the informal sector is negatively correlated with the rate of economic growth in countries where the statutory tax burden is larger than optimal and the enforcement system is weak.
Mauro, Paolo. 1995. "Corruption and Growth." *Quarterly Journal of Economics* 110(3): 681-712.	Cross-country regressions using subjective indices of corruption, the amount of red tape, the efficiency of the judicial system, and various categories of political stability.	Corruption is negatively linked with economic growth.
Rauch, James E. and Peter B. Evans (2000). "Bureaucratic Structure and Economic Performance." *Journal of Public Economics*, 74, 49-71.	Cross-country regressions of bureaucratic quality & corruption on indexes of bureaucratic structure and meritocracy, constructed from expert opinions for 35 developing nations.	Subjective ratings of bureaucratic quality and corruption from ICRG and other sources are positively related to the meritocratic hiring index, but are unrelated to indexes of compensation and internal promotion and career stability.
Rodrik, Dani. 1997. "TFPG Controversies, Institutions, and Economic Performance in East Asia." *NBER Working Paper No. W5914*.	Cross-country regressions and correlations using index constructed by Easterly and Levine (1996) using data from Knack and Keefer (1995).	Institutional quality, initial income, and initial education do well in rank ordering East Asian countries according to their growth performance.
Scully, Gerald. 1988. "The Institutional Framework and Economic Development." *Journal of Political Economy*, 96(3): 652-662.	Cross-country regressions of income growth for 1960-80 for 115 nations, using the Freedom House indicators as proxies for property rights and the rule of law.	Controlling for changes in the K/L ratio, income growth is higher where countries are rated more highly on the Freedom House indexes.
Tanzi, Vito and Hamid Davoodi. 1997. "Corruption, Public Investment, and Growth. " *IMF Working Paper WP/97/139*.	Cross-country regressions using measures of corruption, government revenue, O&M expenditures, and quality of public investment.	The presence of corruption tends to increase public investment while lowering its productivity.
Wei, Shang-Jin. 1997. "How Taxing Is Corruption on International Investors?" *NBER Working Paper Number 6030*.	Cross-country regressions using measures of two year bilateral flows of FDI as explanatory variable, tax rates, corruption, GDP, population, distance, wage, and linguistic ties.	Increases in either tax rate on multinational firms or corruption levels in host government reduces inward FDI and corruption is not treated differently in different parts of the world.

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World Development Report. 1997. *The State in a Changing World*, Oxford University Press for the World Bank, Washington, DC.	Survey of the importance of the role of the state in development. A specially commissioned survey of 3,600 firms in 69 countries for the publication reported on perceptions of the stability of laws and policies, adequacy of infrastructure, taxes and regulations, and crime and corruption.	The survey showed that entrepreneurs in some parts of the world live in constant fear of policy surprises and that the institutional framework was not well enough entrenched to withstand changes in government without serious disruption. Sound policies by themselves can improve results. Benefits are magnified where institutional capability is also higher.
Zak, Paul and Stephen Knack. 1998. "Trust and Growth." IRIS Center Working Paper No. 219.	Cross-country regressions for 40 market economies, using survey measures of interpersonal trust.	Trust is strongly related to growth rates. With data on 11 countries beyond those analyzed by Knack and Keefer (1997), this relationship is found to be robust to variations in specification or period examined, and to the use of religious composition variables as exogenous instruments for trust. Trust is higher in nations with less income inequality and ethnic heterogeneity, and with more reliable legal mechanisms for enforcing contracts.

[i] This document is Annex 2 of "Background Note on Governance Indicators—Informal Board Seminar," July 1, 1999. Contact Eric Swanson (DECDG) for additional information on the background note. Information taken from Burki, Shahid Javed and Guillermo Perry. 1998. *Beyond the Washington Consensus: Institutions Matter.* World Bank, Washington, DC, and other sources.